

Work Order ID 133944

Tuesday, June 23, 2015 3:25:05 PM

133944

Page 1

Item ID: D4125-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Sediment Bowl
 Start Date: 7/11/15 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 7/11/15 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: JUN 24 2015 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4125	D

100 0.00 ***100*** DAS 44 15-07-10
 Bandsaw Memo 0.00
 Jeaspa Bandsaw 1-Cut Blank at 13.375"

105 0.00 ***105*** DAS 20 15-07-13
 HAAS 1 Memo 0.00
 HAAS CNC vertical machine #1 Machined as per folio FB078
 Rev: AA
 Dwg: D
 Deburr

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

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133944

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 7/11/15 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 7/11/15 **Req'd Qty:** 4.00 ***/***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Stop ***NR2***

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code
---------	--------	-----------

**Accept
Qty**

Reject
Qty**Reject
Number****Insp.
Stamp**

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

120

0.00

120

Mill Conv

Memo

0.00

Conventional Milling Machine

DRILL SIDE HOLES AS PER DWG

DEBURR

130

QC2- Inspect parts off machine FAI/FAIB

0.00

130

OC

Memo

0.00

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Page 3

4 DAS
27
9-89
JUL 23 2015

MJS
 JUL 23 2015
 SLL
 15/7/23
 MJS
 JUL 23 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Tuesday, June 23, 2015 3:25:04 PM

Page 1

Work Order ID: 133944

133944

Parent Item: D4125-1

D4125-1

Parent Item Name: Fwd Sediment Bowl

Start Date: 7/11/15

Required Date: 7/11/15

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP Rev:A 10.07.21 new issue DD verf:EC

IPP Rev:B 11/12/05 as per dwg. rev.B JFS verf:DD

IPP REV:C

15.03.04 remove alodine and add holes DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M6061T6B2.000X08.00
0

Purchased

No

100

f

7.1120

1.115

4.694737

DAS

44

9-89

15/07/10

M6061T6B2 000X08 000

**

6061-T6 BAR 2.00' X 8.00" (CUT IN 4FT SECTION)

Location

Loc Qty

Loc Code

MAT007

7.112

125429

5.4

m127095

1.712

M132693

1.116

3.351

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

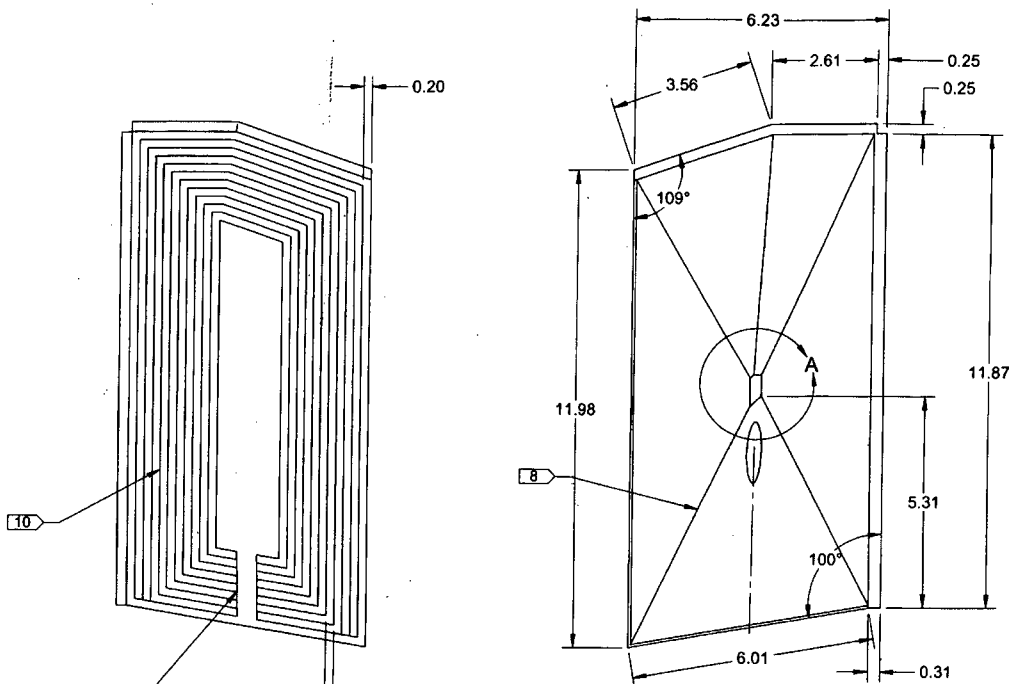
DART AEROSPACE LTD		Work Order:	133944
Description: Fwd Sediment Bowl		Part Number:	D4125-1
Inspection Dwg: D4125	Rev: <i>4 D J</i>	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

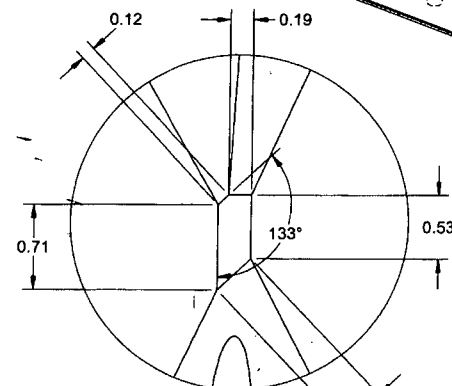
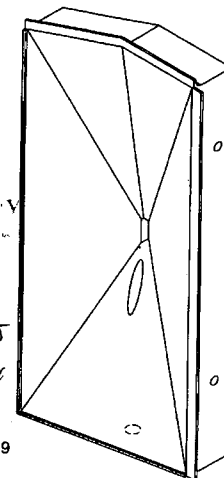
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.20	+/-0.030	0.200	✓		SL08	Vern
6.23	+/-0.030	6.230	✓		CNC-02	12" Vern
3.56	+/-0.030	3.565	✓		SL08	
2.61	+/-0.030	2.617	✓		"	
0.25	+/-0.030	0.250	✓		SL08	
0.25	+/-0.030	0.250	✓		"	
11.87	+/-0.030	11.862	✓		CNC-02	
0.31	+/-0.030	0.310	✓		SL08	
6.01	+/-0.030	6.010	✓		"	
11.98	+/-0.030	11.980	✓		CNC-02	
0.06	+/-0.030	0.058	✓		SL08	
1.37	+/-0.030	1.365	✓		"	
2.99	+/-0.030	2.990	✓		"	
0.30	+/-0.030	0.298	✓		"	
Ø0.348	+0.006/-0.001	0.348	✓		"	
Ø2.57	±0.006 +0.006/-0.001	2.578	✓		Caliper	JCL-08
2.184	+/-0.030	2.181	✓		"	
7.156	+/-0.030	7.156	✓		"	
0.43	+/-0.030	0.434	✓		"	

Measured by: <i>20</i> <i>9-89</i> <i>15.07.15</i>		Audited by: <i>HA</i> DAS	Preliminary Approval:
Date: <i>15-07-13</i>	Date: <i>15/07/15</i>	Date:	

Rev	Date	Change	Revised by	Approved
A	12.09.26	New Issue	KJ	<i>[Signature]</i>



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
NO. 133944 MLJ
15-06-24



DETAIL A
SCALE 4X

RELEASED
2015-06-16
ECN 15-583

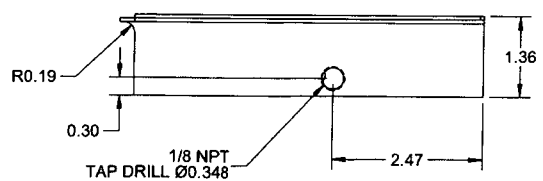
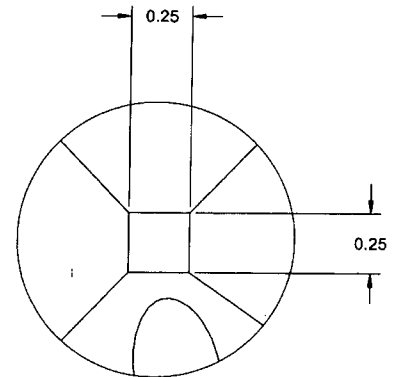
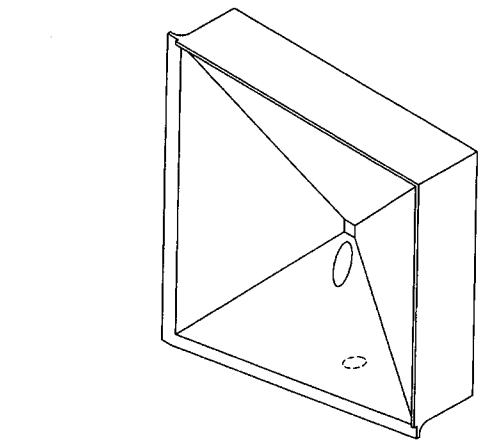
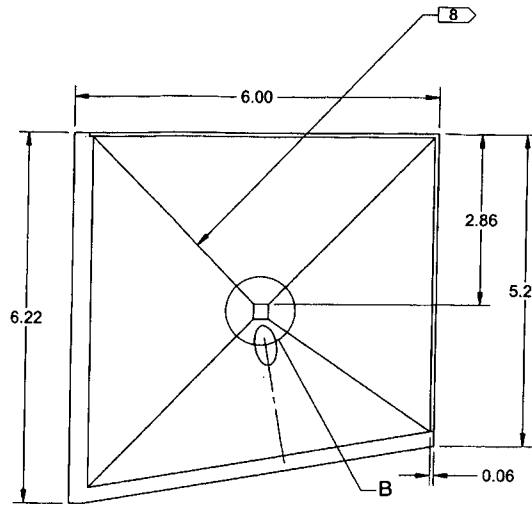
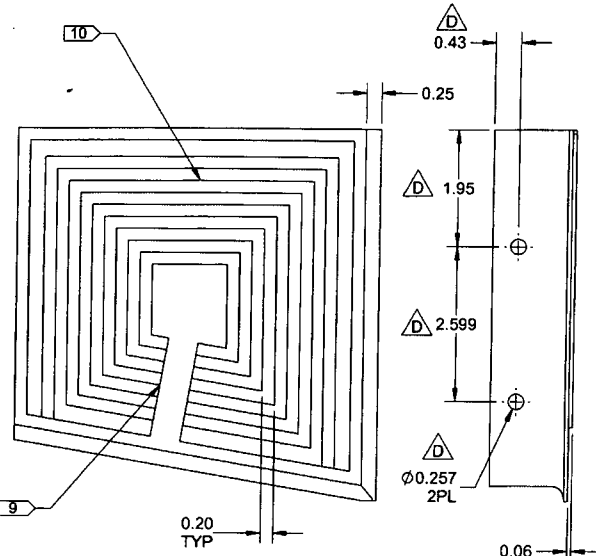
NOTES:
1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B1.750X6.250

D4125-1 FWD SEDIMENT BOWL

- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 3.25 lbs
- 8) MAXIMUM INSIDE RADIUS = 0.250
- 9) MINIMUM RADIUS = 0.187
- 10) MINIMUM RADIUS = 0.015

D	ADDED MOUNTING HOLES TO THE -1/-3 SEDIMENT BOWLS; FINISH NOW COMPLETED AT NEXT ASSEMBLY	CC	15.02.20
C	MODIFY DESIGN OF -1/-3: ADD PERIMETER WALL, CREATE EQUAL STEPS.	DC	11.11.29
B	MODIFY DESIGN OF -1/-3, REMOVED -041	DC	11.09.29
A	NEW ISSUE	HS	10.07.26
REV.	DESCRIPTION		DATE
DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. D
MFG. APPR.	JLM	D4125	SHEET 1 OF 2
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEDIMENT BOWLS	NTS
DATE	15.02.20	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED



DETAIL B
SCALE 4X

NOTES:
 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
 PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
 OR ASTM B211 OR ASTM B221
 REF DART SPEC M6061T6B1.750X6.000

D4125-3 AFT SEDIMENT BOWL

- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.15 lbs
- 8) MAXIMUM INSIDE RADIUS = 0.250
- 9) MINIMUM RADIUS = 0.187
- 10) MINIMUM RADIUS = 0.015

RELEASED
 2015-06-16

APPROVED	DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	RF		
	CHECKED	VS	DRAWING NO. D4125	REV. D
	MFG. APPR.	JLM	SHEET 2 OF 2	
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	SEDIMENT BOWLS	NTS
DATE 15.02.20			COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	